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## Day Use of National Forest Series: The Inyo National Forest, 2003



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## Executive Summary

It is important to examine use of recreation sites and get visitor points of view about those sites. Of particular importance are day use sites, which receive a large amount of use but little research emphasis. The following reports results from a day use visitor contact study conducted on the Inyo National Forest in summer 2003. The survey is a replication of the day use studies conducted on National Forests in southern California from 1992-94, 2000-02. The purpose was to provide information to Inyo National Forest resource managers based on day use visitor opinions. The study sites were on the White Mountain and Mount Whitney Ranger Districts. Though the report refers to the Inyo National Forest, the results are applicable to those two Ranger Districts. Topics addressed included visitor characteristics, visitation patterns, activity patterns, interpretation, communication and information patterns, importance of site attributes and other visitor perceptions. We also sought to conduct comparisons among specific subgroups (e.g., age, education).

Day use sites were randomly selected for inclusion in the study. Dates of data collection were randomly selected from various days during the week throughout the summer months. Data were collected from 360 recreationists.

Results from the 2003 Day Use survey were presented in this report with some sub-group comparisons. Overall results indicate Inyo National Forest visitors were typically white, were U.S.-born, and average 43 years of age with 15 years of education. Most Inyo National Forest day use visitors were recreating with family and friends, visited for more than an hour, were repeat visitors, and planned to return to sites on the Inyo National Forest in the next 12 months. While on the Forest the typical visitor was fishing, day hiking, camping, picnicking/barbecuing, sightseeing, or watching wildlife. Day use visitors had great interest in informational talks given by Inyo National Forest employees, especially on the topics of local mountain history and animals and their habitats. Most heard about the Inyo National Forest from word-of mouth resources (typically family and friends). Preferred sources of on-site information included brochures, notes on bulletin boards, signs along the road and rangers stopping by for a visit. Day use visitors wanted more information about the best times to visit the area to avoid crowds, camping in the area, hiking in the area, fishing in the area, location of day hike trails and things to see and do. Preferred site attributes included trash containers, water faucets, parking areas, picnic tables, fire pits/rings and law enforcement and patrols. They also

preferred somewhat challenging trails that take a few hours or about an hour to hike. Day use visitors were bothered by problems such as litter on roads, drawing and graffiti on natural and man-made structures, litter at picnic sites, and the carving of names, initials or messages on trees. Most day use visitors had a great recreation experience, want to return again, planned to tell other people about their trip, felt the trip was well worth the money spent to take it.

Managers of the two Ranger Districts studied on the Inyo National Forest can use the results of this report in several ways. First the demographics suggest a mostly white clientele, suggesting a focus on English language communications. Of course, multiple languages in communications will enhance outreach to those groups who may be under-represented at day use sites. Development preferences suggest there are particular facilities and amenities (such as trash cans, water faucets, parking areas, picnic tables and fire pits/rings) that the visitors desire, and a focus on these will be beneficial to the Forest and the visitors. There are many opportunities to communicate with forest visitors on-site ranging from ranger-led activities to brochures with information on area sites and features. Preferred outlets on-site were brochures, notes on bulletin boards, signs along the road and rangers who stop by for a visit. Topics of interest included animals and their habitats, local mountain history, the best times to visit the area to avoid crowds, camping in the area, hiking in the area, fishing in the area and more. Attention to issues that bother recreation day use visitors will further enhance their visits to the Inyo National Forest; visitors were especially concerned about litter and graffiti.

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## Background

The social environment for many outdoor recreation areas has been changing. In some states it is the racial/ethnic makeup that is changing. In other states the changes might be in age, education, income, family composition or some other variable or set of variables. It is likely that individuals who belong to these changing groups bring a set of values and behaviors to public lands that differ from that of "traditional" users, and perhaps, land managers. These changes may be felt the strongest in resource programs dealing with visitor use such as recreation, cultural resources, and lands (Chavez 2001). Understanding visitor demographics and values is critical to managing outdoor recreation sites.

It is important to examine use of recreation sites and get visitor points of view about those sites. Of particular importance are day use sites, which receive a large amount of use but little research emphasis. Managers of day use sites can better manage with detailed information about visitor demographics, visitation patterns, visitor communication patterns and visitor preferences.

The following reports results from a day use visitor contact survey conducted on two Ranger Districts of the Inyo National Forest in summer 2003. The study sites were on the White Mountain and Mount Whitney Ranger Districts. Though the report refers to the Inyo National Forest, the results are applicable to those two Ranger Districts.

The Inyo National Forest provides a wide variety of recreation opportunities. The Eastern Sierras attract many visitors from around the world. Many visitors in the area participate in day use activities such as hiking, fishing, picnicking, photography and wildlife viewing. The survey is a replication of the day use surveys conducted on National Forests in southern California from 1992-94, 2000-02 (Chavez & Mainieri 1995; Chavez, McCollum & Olson 2002; Chavez & Olson 2003a; Chavez & Olson 2003b; Chavez & Olson 2003c; Chavez & Olson 2003d; Chavez, Winter & Mainieri 1995a; Chavez, Winter & Mainieri 1995b). The purpose of the current study was to investigate day use recreation on the forest. The primary objectives were to:

- (1) Gain a stronger understanding of recreation visitor characteristics,
- (2) Report visitation patterns,
- (3) Determine on-site activities,

- (4) Determine interpretation, communication & information patterns,
- (5) Report on the relative importance of site attributes,
- (6) Report other visitor perceptions, and
- (7) Make comparisons among specific subgroups for objectives 1 – 6.

### *Place Description*

The Inyo National Forest is home to Mt. Whitney, the tallest peak in the lower 48 states that summits at 14,491 feet. The forest offers diverse recreational opportunities. There is a need for accommodations which will allow visitors the opportunity to take advantage of and to utilize the forest resources in a sustainable manner. The following describes sites included in the visitor survey.

South Lake. South Lake is located 14 miles west of Bishop in Bishop Creek Canyon on the Inyo National Forest. The area provides a wide array of recreation experiences and opportunities for the public. These opportunities include hiking, backpacking, fishing, photography, boating, picnicking and livestock packing. The area is heavily used and the impact caused from this use has brought about some problems, particularly with parking. The backpacker overnight parking area is located near the South Lake trailhead, with a capacity of approximately 50 spaces. Adjacent to the overnight area is the parking for the day users. The overflow parking lot for South Lake is located one mile before the trailhead next to a lodge. This overflow parking is primarily used by overnight backpackers visiting the South Lake area. There is a boat rental business and boat ramp available to meet public boating needs. Since boaters frequently use South Lake, there is a substantial need for additional boat trailer parking in the area.

Big Pine Creek. Big Pine day use area is located approximately 10 miles up Big Pine Canyon on the Inyo National Forest. The area receives a great number of day use hikers, backpackers and fisherman. The day use parking area is located at the very end of the road. This area offers access to several trail destinations such as Big Pine Lakes, Palisade Glacier (largest glacier in the Sierra), Willow Lake, and Coyote Flat (a remnant of an ancient plain before the Sierra Nevada's were formed). The facilities of the area consist of five picnic tables, one bathroom,

and no running water. The parking in the area has been an issue due to heavy weekend usage. The area does not have the capacity to service all the visitors.

Tyee Day Use Area. Tyee day use area is located 4.5 miles up the South Lake Road in Bishop Creek Canyon. It offers opportunities for fishing, hiking, and water play. The area is not well developed and there are neither picnic tables nor restrooms near the trailhead. The area is mostly used by day hikers and fishermen. The trail offers fishing opportunities and scenic sites. Mt. Thompson, Mt. Agassiz, Mt. Gilbert are just a few of the geological features offered. The parking area is not paved and has the capacity for about 20 cars occupying the site at one time.

North Lake. North Lake is located up Bishop Creek Canyon. The area offers opportunities for backpacking, fishing, livestock packing and day hiking. Fishermen mostly use North Lake day use area. The facilities at the site are minimal and include one bathroom, no running water and an unpaved parking lot for overnight and day users. The trailhead for Piute Pass is located here and it offers many opportunities for scenic viewing. Restrooms are located far away from where most of the recreation occurs.

Pine Creek Canyon. Pine Creek is located 20 miles northwest of Bishop. The facilities in this day use area are not well developed. Group facilities and picnic areas are lacking. The Pine Creek pack station is adjacent to the day use area and provides opportunities for families and individuals to participate in day and overnight livestock packing trips. The area is primarily used for hiking, fishing, backpacking and livestock packing.

Rock Creek. Rock Creek is located off highway 395. This area receives heavy recreation use. It offers visitors day and overnight usage areas. Part of Rock Creek is included in a Bighorn Sheep habitat closure, making some of the trails closed to dogs and goats. Visitors often participate in fishing, hiking, picnicking, and scenic viewing in this area. Fishing is the primary activity.

Whitney Portal. Mt. Whitney is located 13 miles west of Lone Pine on the Inyo National Forest. The area has the trailhead for the highest peak in the lower 48 states. The day use area has a store, fishing pond, campgrounds, running water, picnic areas, and is handicap accessible at one side of the pond. Parking is a concern, due to the amount of hikers climbing Mt. Whitney.

Lower Cottonwood Canyon. This recreation area is located 5 miles south of Lone Pine on the Inyo National Forest. The area is secluded and may be most used by the local population. It provides hiking and fishing for visitors. It had little development.

Lake Sabrina Day Use Area. Lake Sabrina is located 18 miles from Bishop in Bishop Creek Canyon. The area offers hiking, boating and fishing opportunities. There is a store located at the site that sells food, has boat rentals and other amenities. Sabrina Basin trailhead is located here and offers beautiful scenery for hikers and photographers. This trailhead provides access to wilderness areas. Glacier lakes and other geological features of the Eastern Sierras are found in this area.

## Methods

Instrument. The day use survey instrument was initially developed for evaluation of urban-proximate National Forests in 1992. The Office of Management and Budget approved the survey instrument (expires March 2006). The instrument closely follows the questions asked of day use visitors since 1992. The approval is held by Dr. Deborah Chavez of the Pacific Southwest Research Station (PSW).

Sampling. Dates of data collection were randomly selected throughout the summer months 2003. Data were collected from 360 recreationists at day use sites on weekend days from June 21st to August 10th 2003. The data collection days were on Saturdays (8) and Sundays (8). The survey instruments were available in English and Spanish. Two Inyo National Forest summer employees collected the data after training at PSW.

Day Use sites were also randomly selected from all developed picnic areas, general day use areas and trailhead sites. The following areas were selected: Big Pine Creek, Lower Cottonwood Canyon, North Lake, Pine Creek Canyon, Rock Creek above, Rock Creek below, Sabrina day use, South Lake, Tyee day use, and Whitney Portal. The site types included: day use area (n=102); day use, canyon (n=19); day use, developed site (n=110); day use, some development (n=98); and undeveloped lake area (n=31).

All visitors (age 18 or over) on-site were asked for their voluntary participation in the survey. Visitors were assured confidentiality of their responses. A total of 672 adults were contacted, and of those contacted 360 agreed to fill out questionnaires (54%). Usual reasons for not participating in the research process were: "busy fishing", "in a hurry", "wanted to enjoy day", or "survey was too long".

**Subgroup Comparisons.** A few variables were created and used for the analyses so that comparisons could be made between specific subgroups. These include (1) age: using 43 as the average, respondents under age 43 (n=180) and 44 years or older (n=170); (2) household income group: respondents income of \$69,999 or less (n=153) and incomes of \$70,000 or more (n=177); (3) education experience: those with a high school diploma (n=68), respondents with some college or a diploma (n=191), and those with at least some graduate work (n=91); (4) group size: people recreating alone (n=41), groups with 2 people (n=126), groups with 3-4 people (n=86), and groups with 5 or more people (n=107); and (5) visitation experience: first time visitors (n=132) and repeat visitors (n=227).

## **Results**

Responses are provided in the form of percentages. Some means, or averages, are also provided when appropriate. Statistics are reported for all 360 respondents unless noted otherwise.

### ***Visitor Characteristics***

**Gender, Age and Education.** Among day use site visitors, over half were male (59%) and 41 percent were female. Respondents' age ranged from 18 to 82 years, with an average age of 43 years (n=350; SD=12.91). On average, survey respondents had 15 years of education (n=357; SD=2.59). Approximately 19 percent of visitors had a high school education, more than half said they had some college education or a degree (53%), while 25 percent of the visitors said they had done graduate work.

Race. The largest racial/ethnic group of those visitors surveyed were white (79%), followed by Mexican, Mexican-American, or Chicano (8%), Japanese (6%), and American Indian or Alaska Native (3%).

Language and Place of Birth. English was spoken (94%) and read (95%) most of the time by the majority of the visitors surveyed. Most of the visitors surveyed indicated they were born in the United States (91%) and had resided in the United States all their lives (91%).

Income. Almost half of visitors (49%) reported an annual household income of \$70,000 or more (see Fig. 1), with 31 percent reporting annual household incomes over \$90,000.

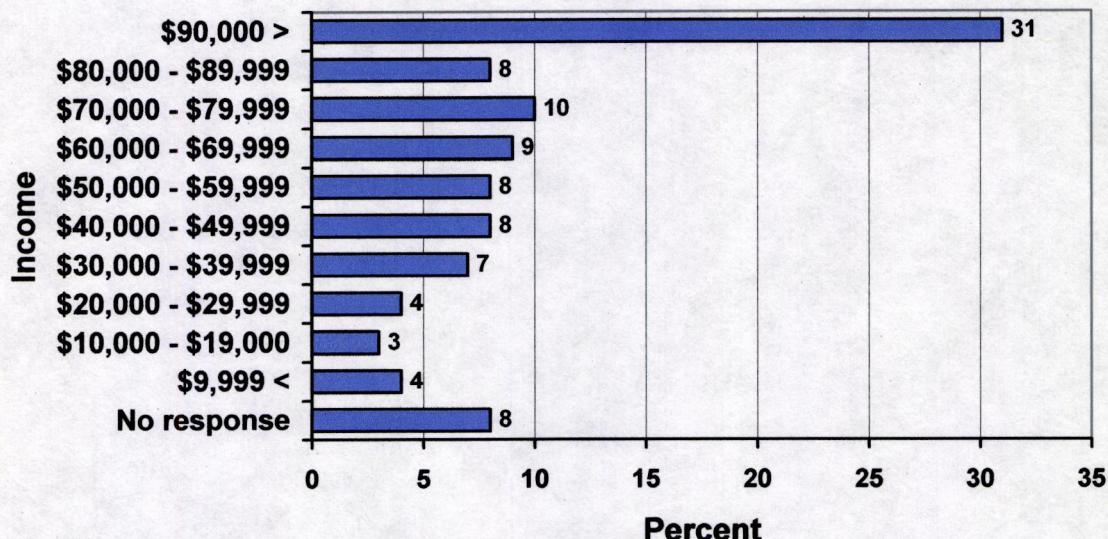


Figure 1. Annual household income (n=360)

Recreation Group. The majority of day use visitors were recreating with family members (67%) and friends (40%). Some respondents were recreating with an organized group (6%) and others were alone (7%).

People who were repeat visitors (74%, p=0.000) and those with annual household incomes greater than \$70,000 (76%, p=0.001) were more likely to be recreating with family members. People 43 years or younger were more likely to be recreating with friends (46%, p=0.011).

**Group Size.** Respondents' group size ranged from 1 to 24 members, with an average group size of 4 members (n=360; SD=2.68). Visitors with a household income of \$70,000 or more usually were in larger groups (mean=4.2 people) than visitors with income of less than \$70,000 (mean=3.4 people,  $t(330)=-2.57$ ,  $p<0.011$ ). Respondents 43 years or younger usually were in larger groups (mean=4.3 people) than those 44 years and older (mean=3.2 people,  $t(250)=3.76$ ,  $p<0.000$ ).

**Length of Visit.** Respondents were also asked how long a visit they would have. A small percent planned to stay less than one hour (3%). A third of the visitors (31%) planned a one to three hour visit while another 29 percent planned a four to six hour visit and 30 percent planned to stay more than six hours (see Fig. 2).

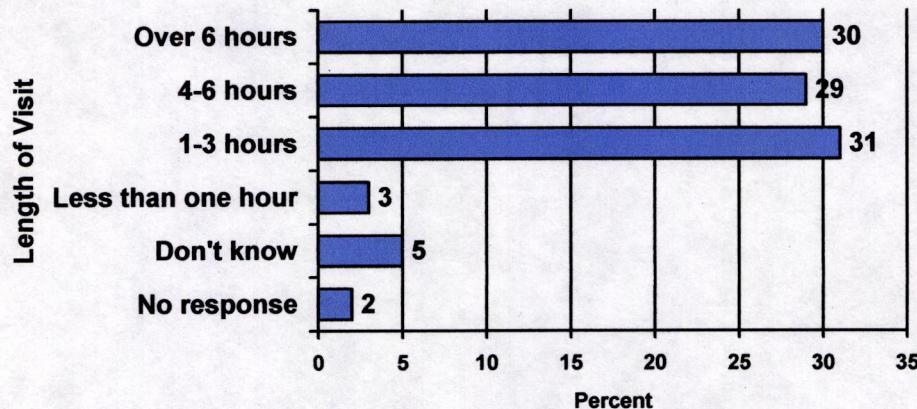


Figure 2. Length of visit (n=360)

### **Visitation Patterns**

**Visitation Experience.** Almost two-thirds of the respondents were repeat visitors (63%); that is, they had been to the site before. Respondents 44 years or older (73%,  $p=0.000$ ) were more likely to have visited this site in the past.

Of repeat visitors, most had visited a median 1.5 times in the past 12 months (n=192; range=98) and had been coming to this site for an average of fifteen years (n=183; mean=14.6; SD=13.13). Of the groups that had visited this site before, respondents 44 years and older had visited

this site for more years (mean=17.9 years) than 43 years and younger (mean=9.7 years,  $t(177)=-4.62$ ,  $p<0.000$ ).

**Plans to Return.** Almost two-thirds of the day use visitors (65%) were planning to return to the site again in the next 12 months; another 29 percent were unsure of their plans; while 6 percent had no plans to return in the next 12 months. Repeat visitors (78%,  $p=0.000$ ) were more likely to return to this site within the next year.

**Visits to Other National Forests.** Three-quarters of the day use visitors (74%) had visited other National Forest day use areas in the past 12 months and these people had made a median four visits ( $n=240$ ). About a quarter of the visitors (20%) had not visited other Forest day use sites and six percent were unsure.

**Travel Time.** Over a third of the day use visitors traveled less than an hour to get to the recreation site (38%), the rest traveled almost five hours (mean=4.6) to get to the site (61%;  $SD=2.03$ ).

#### ***Visitor Activities On-site***

A series of four questions addressed activity patterns. We asked which activities they usually engaged in, their favorite activities, activities done most often and the activities engaged in on the day they were contacted for the study. One other question addressed recreation trends. Respondents were asked if they had heard of, had tried, or might try a range of recreational activities in three different categories: Traditional activities (i.e., natural history hikes, horseback tours), new activities (i.e., mountain biking, camera safaris, eco-tours) and high risk activities (i.e., heli-skiing, bungee jumping, hang gliding).

Activities Usually Engaged In. Figure 3 indicates that day use visitors usually engaged in fishing (72%), day hiking (69%) and camping (61%) while on the forest. Other usual activities include picnics/barbecues, sightseeing, driving for pleasure, watching wildlife, backpacking overnight and stream play. Combined into the “other” category were bouldering/rock climbing, photography, swimming, mountaineering, peace, contemplation, relaxing, rest, nap, visit with others, kayak, motorcycle riding, hot springs, bird watching, religious activities, and plant identification. Multiple responses were allowed for this question.

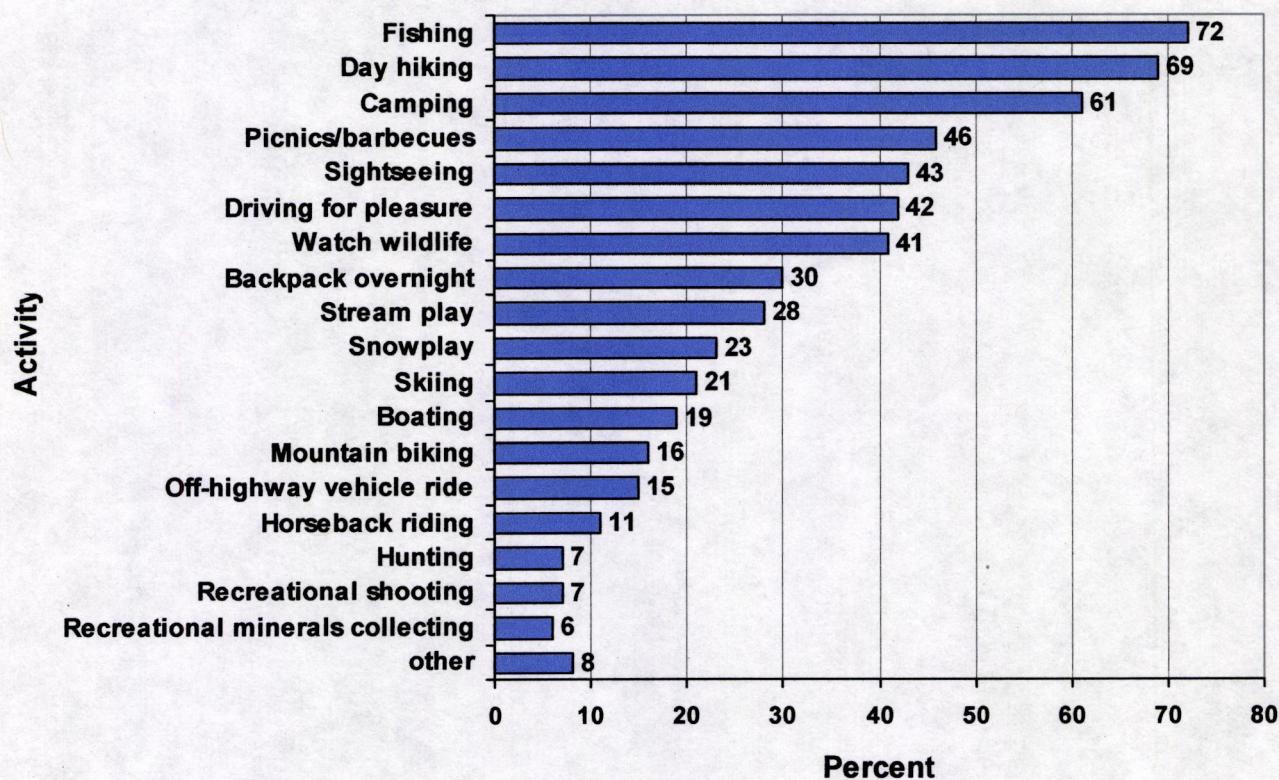


Figure 3. Activities in which respondents usually engaged while visiting the National Forests (n=360, multiple responses; 2031 total cases).

Visitors usually engaged in an average 5.6 activities (n=360; SD=3.13).

**Favorite Activities.** Figure 4 indicates that the favorite activity among the day use visitors was fishing (34%), day hiking (17%), camping (12%), or overnight backpacking (10%) while on the forest. Other favorite activities included skiing, sightseeing, driving for pleasure, watching wildlife, horseback rides, and bouldering/rock climbing. Combined into the “other” category were boating, hunting, stream play, off-highway vehicle rides, picnic/barbecues, mountain bike rides, snow play, photography, mountaineering, recreational minerals collecting, visiting with others, kayaking, swimming, bird watching, religious activities, peace/contemplation.

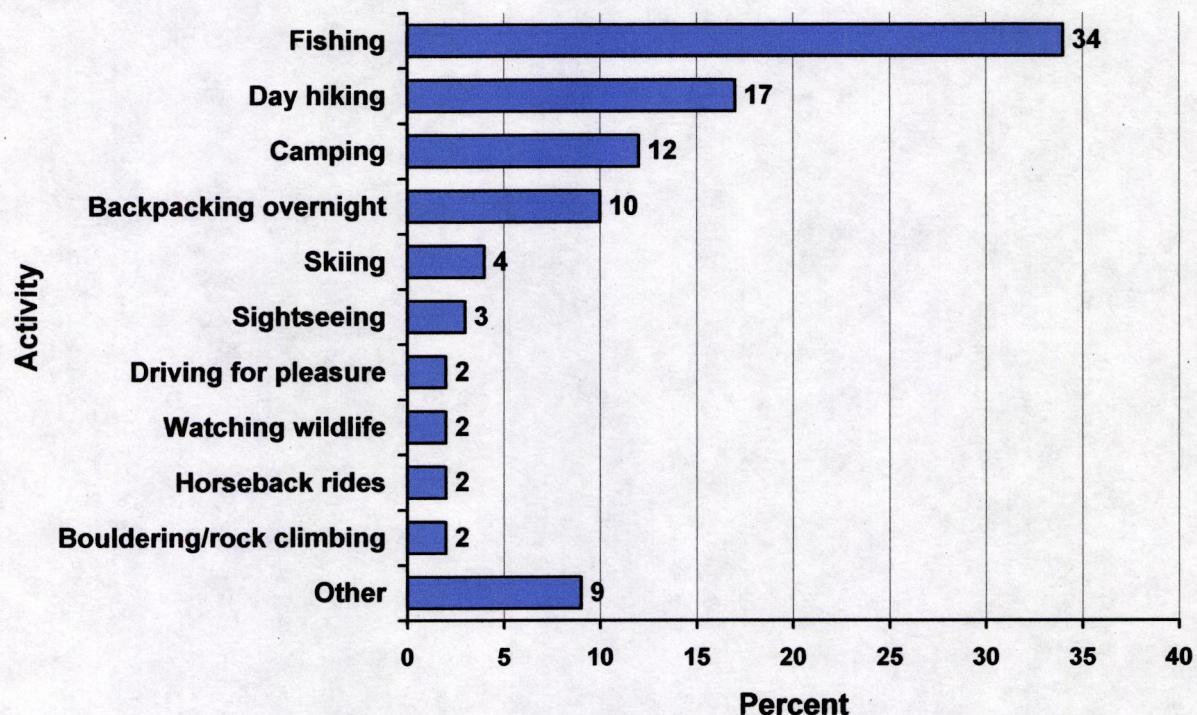


Figure 4. Favorite activities (n=360)

**Activities Done Most Often.** Figure 5 indicates that the activity done most often among the day use visitors was fishing (33%), day hiking (20%) or camping (12%) while on the forest. Other activities included backpacking overnight, picnic/barbecues, skiing, driving for pleasure, sightseeing, and boating. Combined into the “other” category were off-highway vehicle rides, bouldering/rock climbing, mountain bike rides, horseback rides, snow playing, watching wildlife, photography, hunting, stream play, kayaking, swimming, mountaineering, religious activities, and peace, contemplation.

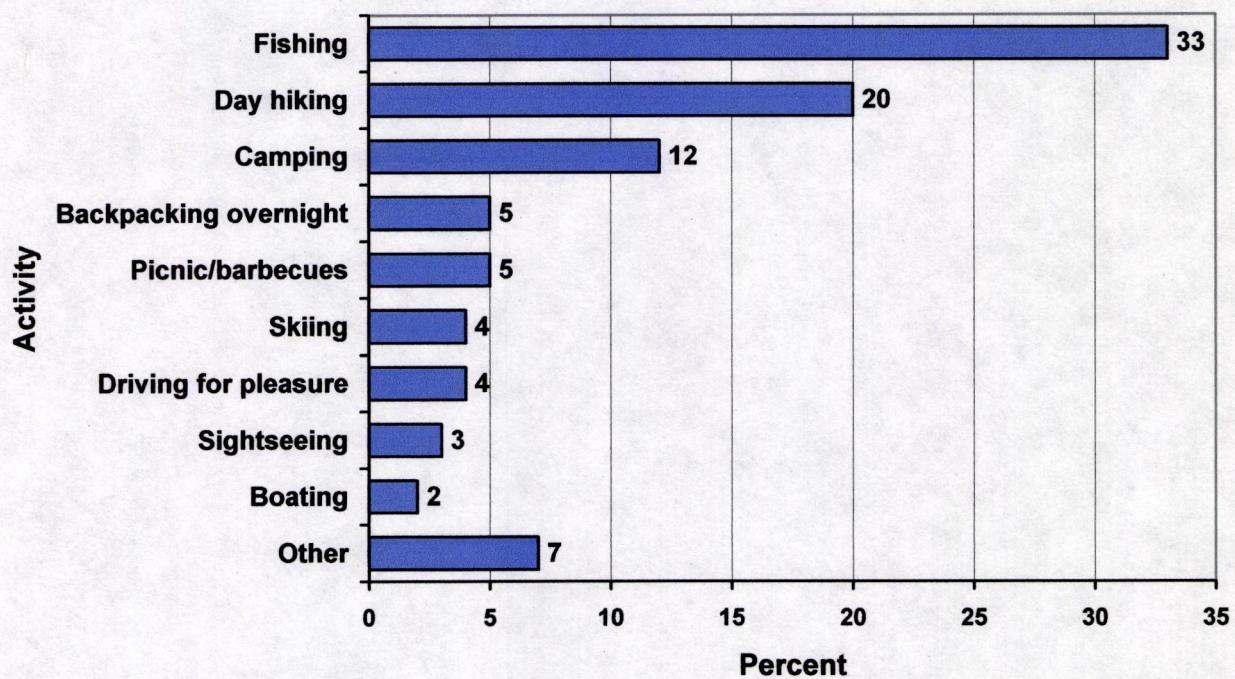


Figure 5. Activities done most often (n=360)

Activities on Day Contacted. Most day use visitors were engaged in the following activities on the day we contacted them: “fishing” (35%), and “day hiking” (21%, see Fig. 6). Other activities included sightseeing, camping, picnic/barbecues, backpacking overnight, driving for pleasure, watching wildlife, stream play. Combined into the “other” category were horseback rides, boating, off-highway vehicle rides, peace, contemplation, photography, bird watching, mountain bike rides, mountaineering, plant identification and religious activities.

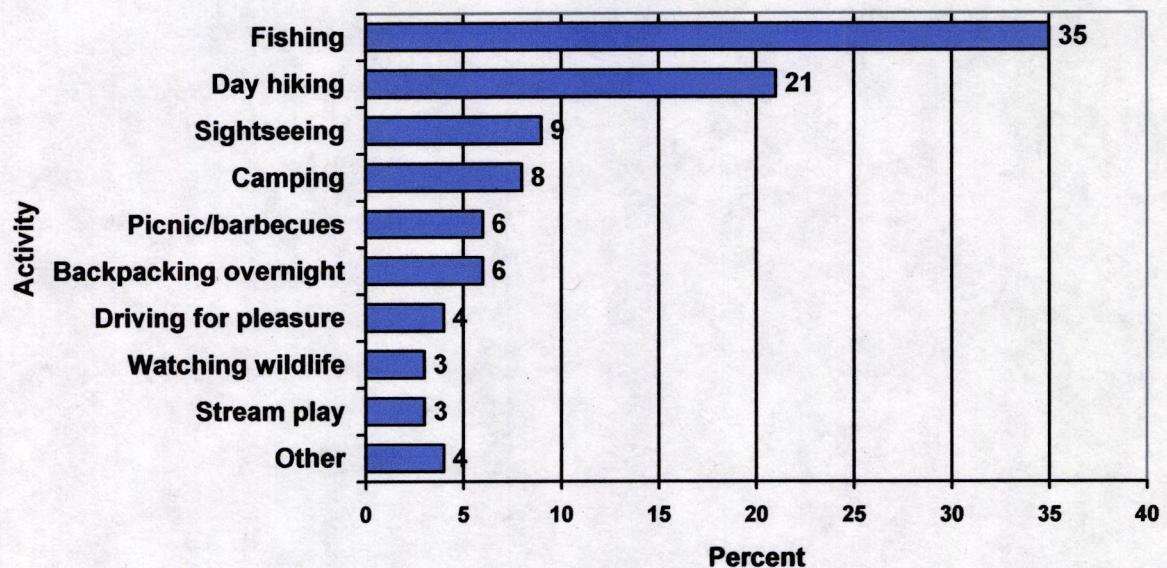


Figure 6. Activities on day contacted (n=360; 509 multiple responses).

Visitors engaged in an average of 1.5 activities (n=341; SD=1.10) on the date contacted. Visitors with a household income of \$70,000 or more were usually engaged in more activities on the day they were surveyed (mean=1.6 activities) than visitors with income of less than \$70,000 (mean=1.4 activities,  $t(316)=-2.27$ ,  $p<0.024$ ).

**Activity Trends.** Respondents were asked if they had heard of, had tried, or might try a range of recreational activities in three different categories: Traditional activities (i.e., natural history hikes, horseback tours), new activities (i.e., mountain biking, camera safaris, eco-tours), and high risk activities (i.e., heli-skiing, bungee jumping, hang gliding). Respondents were most likely to have heard of mountain biking, horseback tours, hang gliding, and bungee jumping (see Fig. 7). At least 35 percent said they had tried mountain biking, natural history hikes and horseback tours. At least half reported they might try horseback tours, natural history hikes, camera safaris, eco-tours and mountain biking.

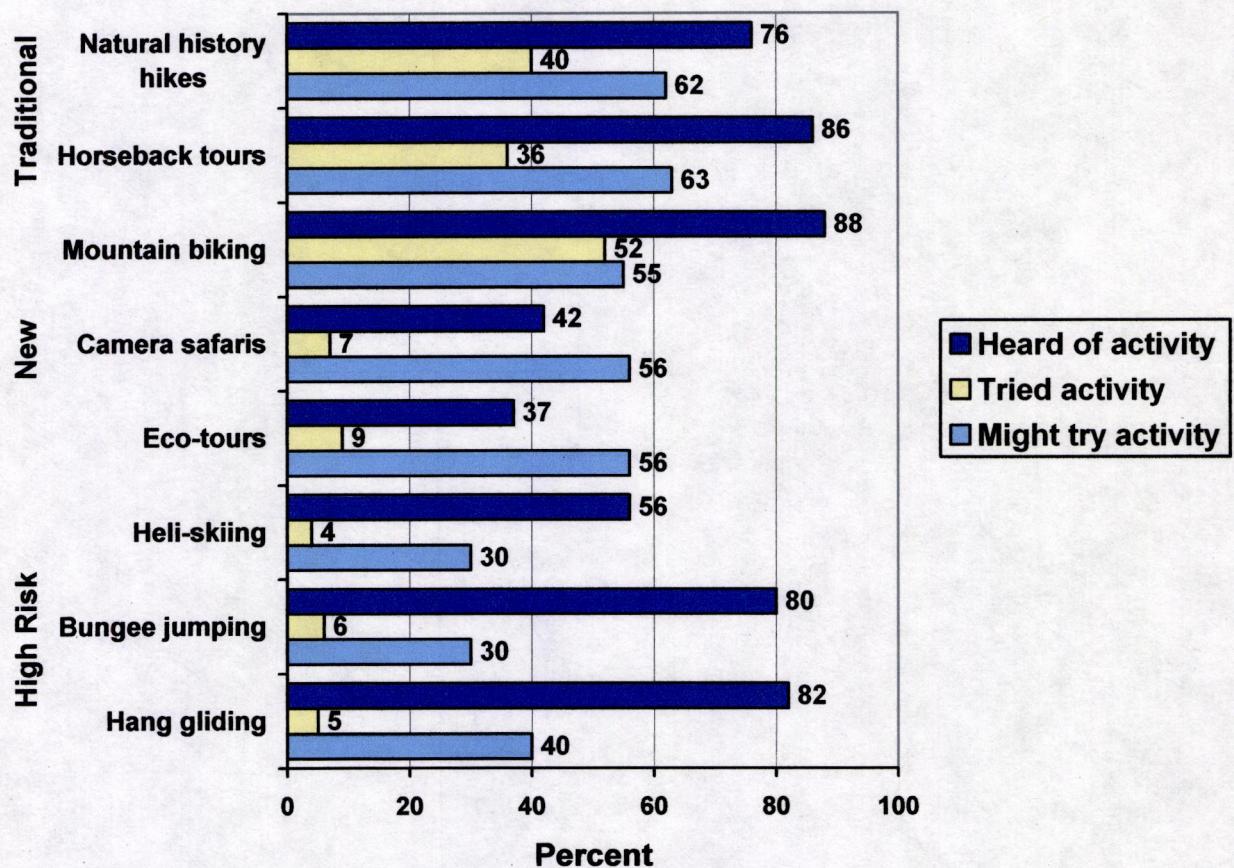


Figure 7. Activity trends (n=360)

Respondents 43 years and younger were more likely to have heard of bungee jumping (93%,  $p=0.011$ ) and mountain biking (98%,  $p=0.002$ ). They were also more likely to try bungee jumping (51%,  $p=0.000$ ); hang gliding (65%,  $p=0.000$ ); heli-skiing (53%,  $p=0.000$ ); horseback tours (88%,

$p=0.046$ ); and mountain biking (86%,  $p=0.000$ ). First time visitors were more likely to try mountain biking (86%,  $p=0.011$ ).

### *Interpretation, Communication, and Information*

Informational Talks. Most day use visitors were interested in a variety of informational talks (79%; see Fig. 8). More than half of the respondents indicated they would attend talks on local mountain history (60%) and animals and their habitats (51%) if offered. Other popular topics were effects of pollution on forests, safety issues, and citizen involvement in forest protection. "Other" topics included flora of area, fishing, local geology, survival skills, photography, animal dangers, birds, human impact on the forest, pack horse impact on the forest, celebration of the changing of the seasons and handicapped-accessible talks. Preferred children's topics (n=68) included general habitat, animals, safety, natural features, Smokey the Bear/fire prevention, conservation, flora, historic features, nature preservation and wildlife.

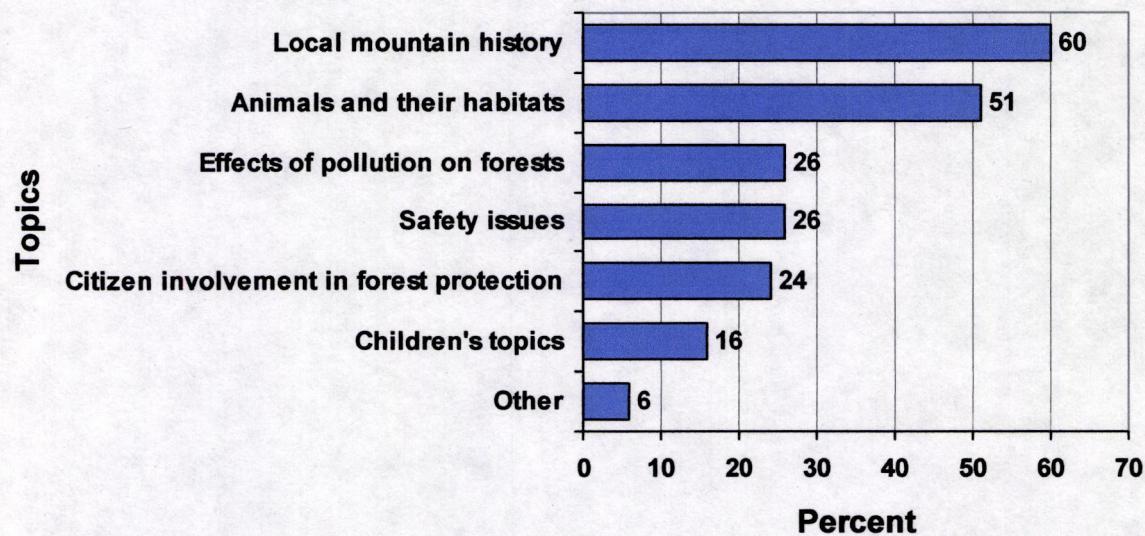


Figure 8. Ranger led activities in which respondents would participate (n=360; 756 multiple responses)

First time visitors were more likely to be interested in ranger led talks about animals (59%,  $p=0.041$ ).

Heard About Site. Respondents were asked how they first heard about the day use sites on the Forest. Half of the visitors (85%) heard about these day use sites by word-of-mouth sources such as family members and friends (see Fig. 9). Other sources included brochures, book, driving, passing by, live locally, on a map, agency (ranger station, ranger), internet, and always known. Combined into the “other” category were newspaper, television, word of mouth, boy scouts, club or organization, other recreation area, radio, camping nearby, local camp or campground, survey, annual pass to other areas, school activities, and shop or store.

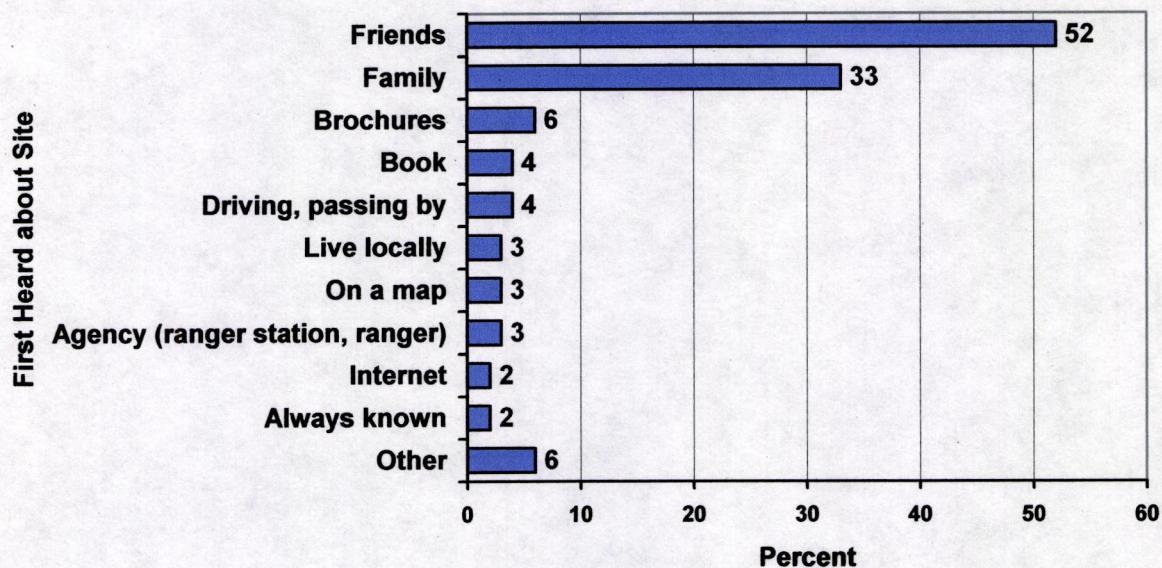


Figure 9. Information sources (n=360; 414 multiple responses)

**Information Preferences On-Site.** Respondents were asked how they might like to receive information about National Forests while on-site. They were given response choices (e.g., brochure at entrance), and for each rated it as a source they liked or disliked. More than six in ten respondents indicated that brochures given out upon entrance to the recreation site (84%), notes on bulletin boards (74%), signs along the road (68%) and a ranger who stops by for a visit (64%) were favorable ways to obtain information on-site (see Fig. 10).

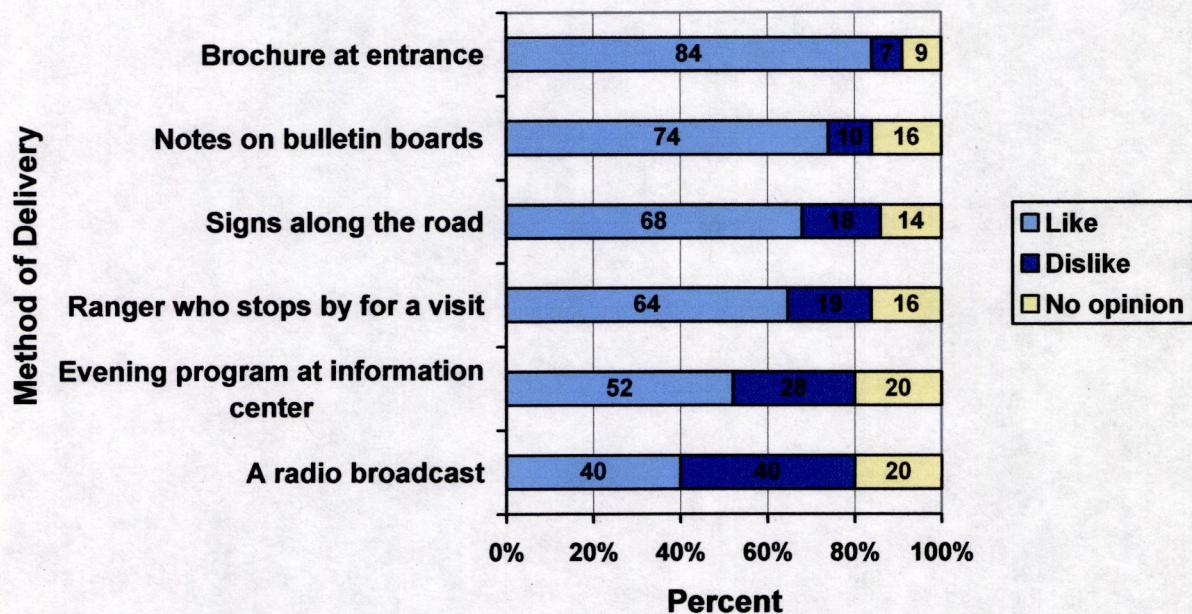


Figure 10. Preferences for information related to National Forests while on-site (n=360)

Respondents 44 years of age or older were more likely to want to get information while on-site from “bulletin boards” (92%,  $p=0.039$ ) and “evening programs” (74%,  $p=0.004$ ). First time visitors preferred to receive information from a “ranger visit” (84%,  $p=0.017$ ).

**Types of Information Desired.** When asked the types of site information desired, most respondents were interested in some type of information (96%) with an average of 12 items (n=354; SD=5.87; see table 1). Of interest to more than 50 percent of visitors were best times to visit the area to avoid crowds, camping in the area, hiking in the area, fishing in the area, history of the area, location of day hike trails, things to see and do, cultural and historical features of the area, similar areas that are not crowded, streamside areas, types of plants and animals in the area, rules and regulations, rare types of plants and animals, ways to keep the area natural looking and places similar to this one. Fewer people were interested in information on shooting areas and hunting in the area. Combined into the “other” category were birds, fire safety, native Indian sites and trail conditions.

Table 1. Kinds of information respondents would like to receive (n=360; 4229 multiple responses)

<u>71%</u>	Best times to visit the area to avoid crowds	<u>51%</u>	Rare types of plants and animals
<u>70%</u>	Camping in the area	<u>51%</u>	Ways to keep the area natural looking
<u>69%</u>	Hiking in the area	<u>50%</u>	Places similar to this one
<u>69%</u>	Fishing in the area	<u>49%</u>	Ways to protect the wild area
<u>67%</u>	History of the area	<u>46%</u>	Picnic/barbecue areas
<u>67%</u>	Location of day hike trails	<u>45%</u>	Safety in the area
<u>59%</u>	Things to see and do	<u>43%</u>	Location of overnight trails
<u>57%</u>	Cultural and historical features of the area	<u>34%</u>	Surrounding area to the forest
<u>55%</u>	Similar areas that are not crowded	<u>28%</u>	Off-highway vehicle areas
<u>55%</u>	Streamside areas	<u>18%</u>	Hunting in the area
<u>52%</u>	Types of plants and animals in the area	<u>17%</u>	Shooting areas
<u>51%</u>	Rules and regulations	<u>2%</u>	Other

Respondents 43 years and younger were usually interested in more items of information (mean=12.6 items) than those 44 years and older (mean=11.3 items,  $t(344)=2.08$ ,  $p<0.038$ ).

Respondents 43 years and younger were more likely to want information about the best times to visit the area to avoid crowds (80%,  $p=0.016$ ), hiking in the area (78%,  $p=0.024$ ), location of day hike trails (79%,  $p=0.001$ ), picnic/barbecue areas (55%,  $p=0.016$ ), places similar to this one (59%,  $p=0.014$ ), rare types of plants and animals (62%,  $p=0.005$ ), things to see and do (68%,  $p=0.025$ ), types of plants and animals in the area (60%,  $p=0.043$ ) and ways to protect the wild area (57%,  $p=0.035$ ). Respondents with household incomes \$70,000 or more were more likely to want information about location of day hike trails (73%,  $p=0.042$ ), while first time visitors groups with 3-4 people wanted information about fishing in the area (80%,  $p=0.002$ ). First time visitors were usually interested in more items of information (mean=13.3 items) than repeat visitors (mean=11.2 items,  $t(353)=3.85$ ,  $p<0.000$ ).

**Knowledge of Rules and Regulations.** A few questions were asked in order to assess visitors' knowledge of the rules and regulations pertaining to National Forest use. Overall, respondents averaged 2.5 correct answers to the four questions ( $n=355$ ;  $SD=1.18$ ; see Fig.11). Receiving the most correct responses was the rule "you can get a ticket for cutting forest vegetation (e.g., tree branches)."

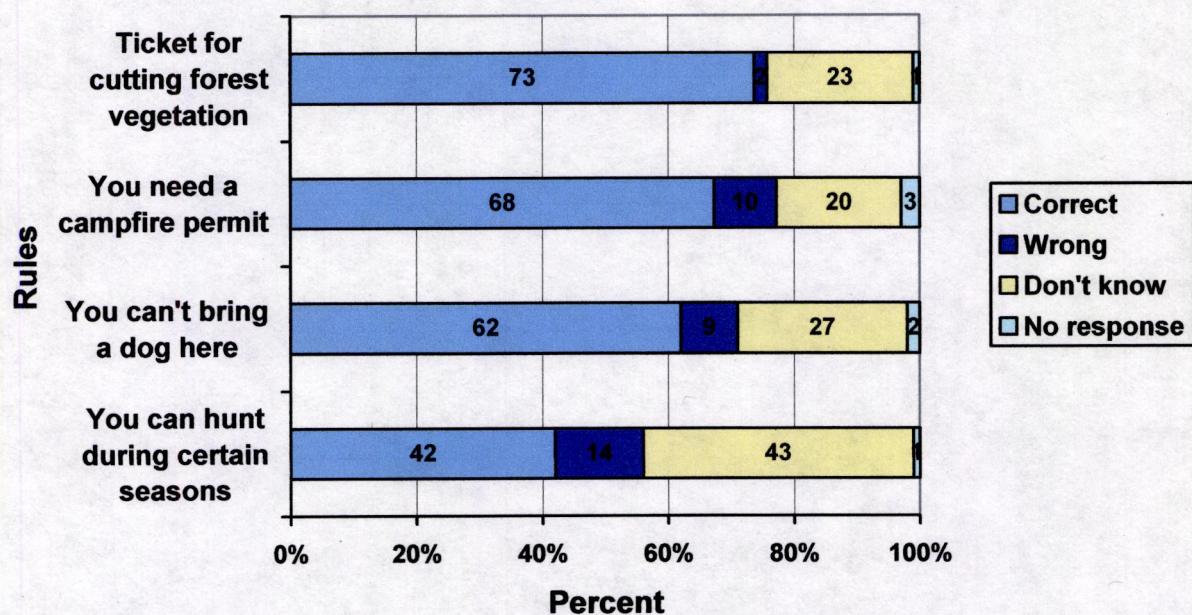


Figure 11. Rules and regulations ( $n=360$ )

Repeat visitors answered a higher number of the questions correctly (mean=2.7) than first time visitors (mean=2.1,  $t(354)=-4.10$ ,  $p<0.000$ ). Repeat visitors were more likely to know that “ticket for cutting forest vegetation” (77%,  $p=0.031$ ), “you can't bring a dog here” (67%,  $p=0.017$ ) and “you need a campfire permit” (73%,  $p=0.002$ ). Respondents 44 years and older answered a higher number of the questions correctly (mean=2.7) than those 43 years and younger (mean=2.2,  $t(346)=-3.85$ ,  $p<0.000$ ).

## Site Attributes

**Facilities and Amenities.** Respondents were asked their opinion about the kinds of facilities and amenities they would like on-site. Of the ten facilities and amenities items, visitors rated an average of five items as being “important” or “very important” to their enjoyment of the day use site (mean=4.9; n=354; SD=2.87). More than half of day use visitors rated the presence of trashcans, water faucets, parking areas, and picnic tables as important or very important facilities/amenities to have on site for use (see table 2). Of least importance were telephones, group facilities and cooking grills. “Other” responses (n=19) included restrooms, showers, flushing toilets and clean restrooms.

Table 2. Relative importance of features/facilities on-site (n=360)

	Very Important	Important	Neutral	Unimportant	Very Unimportant	No Opinion	Mean
Trash cans	<u>43%</u>	<u>33%</u>	<u>9%</u>	<u>2%</u>	<u>9%</u>	<u>5%</u>	<u>4.0</u>
Water faucets	<u>31%</u>	<u>34%</u>	<u>15%</u>	<u>4%</u>	<u>10%</u>	<u>5%</u>	<u>3.8</u>
Parking areas	<u>24%</u>	<u>39%</u>	<u>19%</u>	<u>4%</u>	<u>9%</u>	<u>5%</u>	<u>3.7</u>
Picnic tables	<u>21%</u>	<u>35%</u>	<u>21%</u>	<u>7%</u>	<u>11%</u>	<u>26%</u>	<u>3.5</u>
Law enforcement and patrols	<u>16%</u>	<u>31%</u>	<u>29%</u>	<u>8%</u>	<u>10%</u>	<u>8%</u>	<u>3.4</u>
Restricted use levels	<u>14%</u>	<u>23%</u>	<u>31%</u>	<u>6%</u>	<u>9%</u>	<u>17%</u>	<u>3.3</u>
Fire pits/rings	<u>19%</u>	<u>29%</u>	<u>20%</u>	<u>11%</u>	<u>15%</u>	<u>5%</u>	<u>3.3</u>
Group facilities	<u>8%</u>	<u>22%</u>	<u>33%</u>	<u>15%</u>	<u>13%</u>	<u>11%</u>	<u>3.0</u>
Cooking grills	<u>11%</u>	<u>19%</u>	<u>29%</u>	<u>17%</u>	<u>17%</u>	<u>7%</u>	<u>2.9</u>
Telephones	<u>8%</u>	<u>15%</u>	<u>27%</u>	<u>20%</u>	<u>19%</u>	<u>11%</u>	<u>2.7</u>

Groups with 2 people were more likely to think that “restricted use levels” were important (mean=3.6) than groups of 5 or more people (mean=3.2), groups of 3-4 people (mean=3.1), and people recreating alone (mean=2.9, F(300)=5.01, p<0.007). In general, groups with 2 people were

more likely to think that “restricted use levels” were important (49%,  $p=0.006$ ). Respondents whose education included at least some graduate work were more likely to think that “restricted use levels” were important (mean=3.7) than those with some college or a degree (mean=3.2), and those with a high school diploma (mean=3.1,  $F(292)=5.11$ ,  $p<0.002$ ).

**Trail Preferences.** Most respondents had some opinion about their preferences about trail length and design (94%). More than half of the respondents preferred somewhat challenging trails (52%), trails which take a few hours (51%) and one hour trails (51%; see Fig. 12). Other popular types of hiking trails were trails which take half-an-hour and easy to walk trails. “Other” responses ( $n=13$ ) included trails that are child friendly, natural trails/no human intervention, horse trails, overnight, near water/by creeks, multi-skill level trail system, trails that lead to interesting areas/sites, trails that you can bring your dog on and non-mule trails.

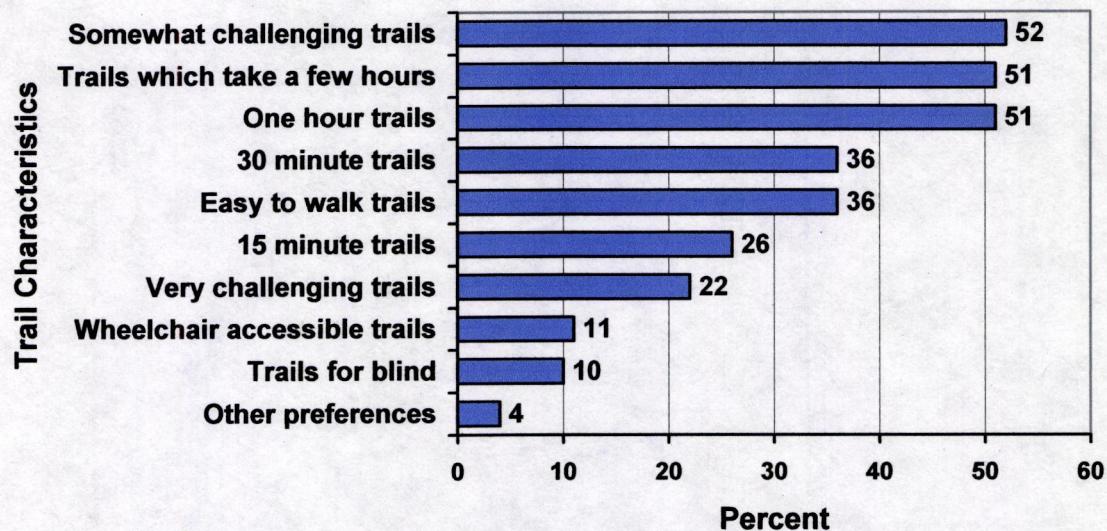


Figure 12. Trail preferences (n=360, 1077 multiple responses)

First time visitors were more likely to prefer trails that “take a few hours” (59%,  $p=0.045$ ).

## Other Visitor Perceptions

**Site Issues.** Respondents were told that some day use sites have been impacted by various human activities and were asked their opinions about impacts at the day use site. Visitors reported an average of five events (out of nine) that bothered them a lot (mean=5.1, n=357; SD=2.54). Most of the visitors indicated that litter along the road (79%), drawings or graffiti on natural structures (78%), drawings or graffiti on man-made structures (77%), litter at picnic sites (76%) and carving of names, initials or messages on trees (73%) bothered them a lot (see table 3). Less bothersome were people drinking alcohol or a lot of people at the site.

Table 3. Ratings of events or behavior happening at the site (n=360)

	<b>It bothers me a lot</b>	<b>It bothers me a little</b>	<b>It does not bother me</b>	<b>I have not seen this</b>
Litter along the road	<u>79%</u>	<u>4%</u>	<u>2%</u>	<u>12%</u>
Drawings or graffiti on natural structures	<u>78%</u>	<u>3%</u>	<u>2%</u>	<u>15%</u>
Drawings or graffiti on man-made structures	<u>77%</u>	<u>3%</u>	<u>2%</u>	<u>14%</u>
Litter at picnic sites	<u>76%</u>	<u>6%</u>	<u>3%</u>	<u>12%</u>
Carving of names, initials or messages on trees	<u>73%</u>	<u>5%</u>	<u>5%</u>	<u>13%</u>
Cars parked at “no parking” areas	<u>44%</u>	<u>24%</u>	<u>14%</u>	<u>14%</u>
Dogs walked off leash	<u>32%</u>	<u>26%</u>	<u>32%</u>	<u>7%</u>
A lot of people at the site	<u>24%</u>	<u>45%</u>	<u>17%</u>	<u>10%</u>
People drinking alcohol	<u>23%</u>	<u>18%</u>	<u>46%</u>	<u>10%</u>

Statistical tests revealed that respondents 44 years of age and older indicated that a higher number of these items bothered them a lot (mean=5.4 items) as compared to those 43 and younger (mean=4.9 items,  $t(347)=-2.06$ ,  $p<0.040$ ). The behavior “dogs walked off leash” (50%,  $p=0.000$ ) were more likely to bother visitors age 44 and older.

Perceptions About the Recreation Experience. Day use visitors' feelings regarding their recreation experience were generally positive. Nine of ten respondents reported they had a great recreation experience, want to return here again, plan to tell other people about the trip and said the trip was well worth the money spent (see Fig. 13). More than three-quarters of the visitors agreed that the site was safe and secure, the experience was as good as hoped for and were not disappointed with some aspects of this site.

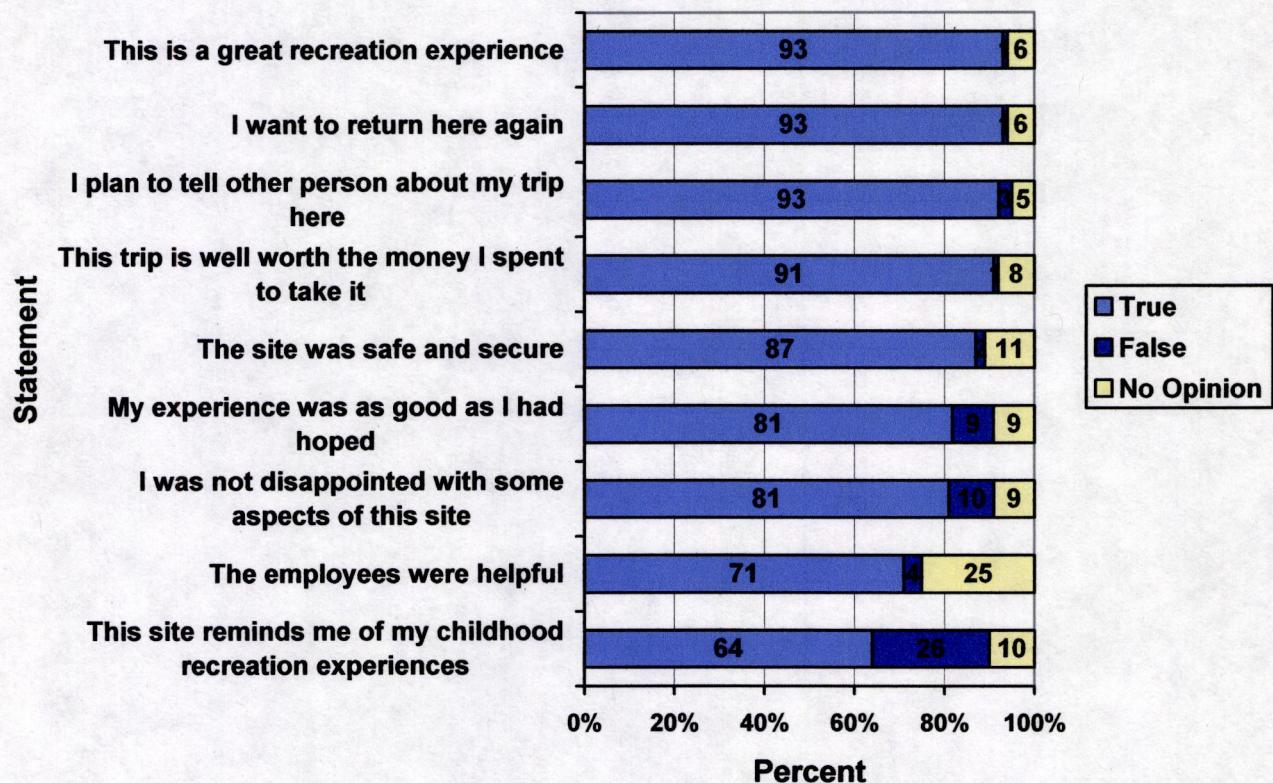


Figure 13. Impression of day use recreation experience (n=360)

#### *Other Comments*

At the close of the instrument respondents had an opportunity to write other comments (see Appendix A). About half the comments were positive about the sites. These were about the beauty of the area, how people keep returning to the site again, and appreciation for keeping the site clean and natural. There were also some negative comments and many of these included suggestions for improvements in facilities and amenities. These included the need for additional parking, paved

roads, additional restroom facilities, fish cleaning areas and larger bear boxes at campgrounds. One respondent suggested using electronic shuttles rather than letting people drive personally owned vehicles everywhere, and suggested adding a curio shop and guided tours/hikes. Another uses the backcountry and would like bulletins with current conditions/ information, a well-marked trailhead and one-night use campsites for backpackers.

Comments on information needs included comments such as educating people about proper fishing rules and regulations as well as camping rules and regulations and having “rangers” more visible for talking and asking questions outside of the visitor center.

## **Conclusions**

Results from the 2003 Day Use survey were presented in this report with some sub-group comparisons. The study sites were on the White Mountain and Mount Whitney Ranger Districts. Though the report refers to the Inyo National Forest, the results are applicable to those two Ranger Districts, not forest-wide.

Overall results indicated Inyo National Forest visitors were typically white, were U.S.-born, and averaged 43 years of age with 15 years of education. More than half had an annual household income exceeding \$60,000 per year.

Most day use visitors were recreating with family and friends, visited for more than an hour, were repeat visitors, and planned to return to sites on the Inyo National Forest in the next 12 months. While about one-third had traveled less than an hour to get to the recreation sites, many traveled an average 4.6 hours.

While on the Forest the typical respondent usually engaged in fishing, day hiking, camping, picnicking /barbecuing, sightseeing, or watching wildlife. Their favorite activities were fishing, day hiking, camping and backpacking overnight. The activities engaged in the day they were contacted included fishing, day hiking, sightseeing and camping. Activities they might try included horseback

tours, natural history hikes, camera safaris, eco-tours and mountain biking. [Note that something people say they “might try” does not mean they will actually engage in those activities.]

Day use visitors had great interest in informational talks given by Inyo National Forest employees, especially on the topics of local mountain history and animals and their habitats. Additional topics of interest were effects of pollution on forests and safety issues. Most heard about the Inyo National Forest from word-of mouth resources (typically friends and family). Preferred sources of on-site information included brochures at site entrances, notes on bulletin boards, signs along the road and rangers stopping by for a visit. Day use visitors wanted more information about the best times to visit the area to avoid crowds, camping in the area, hiking in the area, fishing in the area, location of day hike trails, things to see and do, cultural and historical features of the area, similar areas that are not crowded, streamside areas, types of plants and animals in the area, rules and regulations, rare types of plants and animals, ways to keep the area natural looking and places similar to the one visited.

Preferred site attributes included trash containers, water faucets, parking areas, picnic tables, fire pits/rings and law enforcement and patrols. They also preferred somewhat challenging trails that take a few hours or about an hour to hike.

Day use visitors were bothered by problems such as litter on roads, drawing and graffiti on natural and man-made structures, litter at picnic sites, and the carving of names, initials or messages on trees. However, most day use visitors had a great recreation experience, want to return again, planned to tell other people about their trip and felt the trip was well worth the money spent to take it.

Results were presented in this report with some sub-group comparisons. An important demographic was visitation experience. For example, repeat visitors were more likely to be recreating with family members and to return to this site within the next year than were first time visitors. First time visitors were more likely to be interested in ranger led talks about animals, want information about “fishing in the area”, were interested in more items of information, preferred to receive information from a “ranger visit” and were more likely to prefer trails that “take a few hours” than repeat visitors.

Another important demographic was age. Respondents 44 years or older were more likely to have visited in the past, had visited for more years, were more likely to want to get information on-site from bulletin boards and evening programs and indicated that a higher number of things on site bothered them a lot (such as dogs walked off leash). Respondents 43 years or younger usually were in larger groups, were more likely to have heard of bungee jumping and mountain biking and were more likely to try bungee jumping, hang gliding, heli-skiing, horseback tours and mountain biking. Respondents 43 years and younger were interested in more items of information (best times to visit the area to avoid crowds, hiking in the area, location of day hike trails, picnic/barbecue areas, places similar to this one, rare types of plants and animals, things to see and do, types of plants and animals in the area and ways to protect the wild area).

Management Implications. Managers of the two Ranger Districts studied on the Inyo National Forest can use the results of this report in several ways. The demographics suggest a mostly white clientele, suggesting a focus on English language communications. Of course, multiple languages in communications will enhance outreach to those groups who may be under-represented at day use sites. Development preferences suggest there are particular facilities and amenities (such as trash cans, water faucets, parking areas, picnic tables and fire pits/rings) that the visitors desire, and a focus on these will be beneficial to the Forest and the visitors. There are many opportunities to communicate with forest visitors on-site ranging from ranger-led activities to brochures with information on area sites and features. Preferred outlets on-site were brochures at site entrances, notes on bulletin boards, signs along the road and rangers who stop by for a visit. Topics of interest included animals and their habitats, local mountain history, the best times to visit the area to avoid crowds, camping in the area, hiking in the area, fishing in the area and more. Attention to issues that bother recreation day use visitors will further enhance visits to the Inyo National Forest; visitors were especially concerned about litter and graffiti.

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## **Appendix A**

### **Additional Comments from Respondents**

## Comment

Educate about proper fishing rules and regulations. Additional parking.

Awesome area. Lake could be stocked more often.

This survey is way too long.

Fine people for littering!

More presence of Forest Service employees at sites.

I would like to see this site as well as the rest of Bishop Creek Canyons kept as natural and undeveloped as possible.

We love it and come every year. Keep it as nice as you are and we'll be back.

Stop the fees (daily use fee (Adventure Pass)) in the So. Cal Forests.

Everyone is really nice.

I don't like the paved road to North Lake, bring back the dirt road!

More restrooms on the north side of North Lake.

More bathrooms along the lake. A wider road to get to the lakes.

Educate people of the unwritten rules of fishing and camping (be respectful to others around).

Thank you for having clean restrooms. (\*Maybe you can supply toilet seat liners)

First time visitor, beautiful place and well kept and appreciate the walk ways and benches.

Need more parking.

Need fish cleaning areas.

One of the most beautiful places on earth. We never miss coming to Rock Creek.

The lake is nice.

The young ladies taking the survey were wonderful!

It has been great!

We love the Rock Creek/Rock Lake area.

I had a great visit.

Great site.

Where are all the bears?

Excellent experience! Thank you!

Needs bathrooms and trash cans, otherwise nice area.

Just great, nice

Put parking lot down on the flat land and use electric shuttles to bring people and packs up like at Zion. Your park will be clean, the trees and wildlife will love it. Offer steeper hikes with an experienced guide (1-2 hours). Put the curio part of the store down at the parking level, have only food and water at the higher elevation.

A park should not always be for separate groups. There should be things for various groups to blend as one.

More parking areas.

I may be spending 1 week in the backcountry, but a few amenities are appreciated by those of us who don't spend more than a couple of hours at the trailhead: bulletins with current conditions/information, a well-marked trailhead, potties of some sort, trash cans, and one-night use campsites for backpackers.

The Pine Creek Pack Station is a great help.

We travel a couple of days almost every year to come here!

I don't like horses on trails, having been all over the Sierras, I can say that I think horses impact the environment far more than any user group. Mules, too.

Reservation camping is terrible, keep it first come first serve.

Love the Inyo! The FS needs more money so that travelers, campers, and day users are better educated. Any negative experience over the years is due to uneducated people. Also, rangers need to be more visible for talking, asking questions outside of the visitor center. Education is our only hope to keep the forests for future generations.

It was great!

I like fish.

Need to install larger bear boxes in camping areas. The one in our campsite is barely large enough for a cooler!

I love the trees and the rushing waters. The air is clean and there is an aroma of pine which is pervasive. The rocks and mountains rise spectacularly straight up.

It's always nice to come up here from the valley floor when it is hot!